Philadelphia University

Faculty of Engineering - Department of Civil Engineering
Second Semester 2022/2023

Course Details:

Title:	Transportation and Traffic Engineering (0670422)
Prerequisite:	**Highway Geometric Design (0670324)**
Credit Hours:	3 credit hours (15 weeks per semester, approximately 45 contact hours)
Textbook:	"***Traffic and Highway Engineering***", Forth Edition, Nicholas J. Garber, Laster A. Hoel, 2009.
References:	Highway Capacity Manual 2000, **HCM**, Transportation Research Board, National Research Council.
Course Description:	Concepts, fundamental parameters of traffic (Speed, volumes, density, time headway, gap and follow-up time and examples), fundamental of transportation (car following theory, queuing theory), capacities and level of service (multilane highways, unsignalized intersections, signalized intersections, roundabouts, pedestrians facilities) .
Website:	http://www.philadelphia.edu.jo/academics/ahad/page.php
Instructor:	Eng. Adnan Abdelhadi Email: adnan_m_abdelhadi@philadelphia.edu.jo Office hours: Sun,& Tue,:9:30- 12: 30 - Mon. & Wed:9:30 -12:45

Course Outlines:

Week	Topic
1,2	Fundamental parameters of traffic
3.4	Introduction to queuing theory
5,6	Highway Capacity & level of service
7, 8,9	- Two lane highway -Multilane highways -Freeway
10,11	Unsignalized intersections Roundabouts
12,13	Signalized intersections
14,15	Traffic Studies
16	Final exam

Course Learning Outcomes with reference to ABET Student Outcomes:

Upon successful completion of this course, student should:

1.	Understanding of choosing the best transportation planning	[1, 2]
2.	Understanding transportation models	[1,2, 6]
3.	Understanding fundamental parameters of traffic flow	[1, 6]
4.	Understanding capacities and level of services of various road elements	[1, 6]
5.	Design the traffic signal	[1, 2]

Assessment Guidance:

Evaluation of the student performance during the semester (total final mark) will be conducted according to the following activities:

Sub-Exams: The students will be subjected to two scheduled written exams, first exam and second exam during the semester. Each exam will cover materials given in lectures in the previous 3-4 weeks.

Quizzes: (3-5) quizzes of (10-15) minutes will be conducted during the semester. The materials of the quizzes are set by the lecturer.

Homework and projects: Tutorials sheets will be handed out to the students and homework should be solved individually and submitted before or on a set agreed date. Student may be assigned to present project(s).

Cheating by copying homework from others is strictly forbidden and punishable by awarding the work with zero mark.

Collective Participation: Brain storming and collective discussions will be carried out during any lecture. Individual student will be assessed accordingly.

Final Exam: The students will undergo a scheduled final exam at the end of the semester covering the whole materials taught in the course.

Grading policy:

Mid Term Exam	30%
Quizzes and Homework	30%
Final Exam	40%
Total:	100%

Attendance Regulation:

The semester has in total 45 credit hours. Total absence hours from classes and tutorials must not exceed 15% of the total credit hours. Exceeding this limit without a medical or emergency excuse approved by the deanship will prohibit the student from sitting the final exam and a zero mark will be recorded for the course. If the excuse is approved by the deanship the student will be considered withdrawn from the course.

Oct, 2022

Philadelphia University

Faculty of Engineering and Technology
Department of Civil Engineering
Second Semester 2022/2023

Course Information

Title: **Strength of Materials (670212)**
Mon, Wed 11:15-12:30
Classroom: 202

Prerequisite: Dynamics (620212)

Credit Hours: 3 credit hours (15 weeks per semester, approximately 45 contact hours)

Textbook: Mechanics of Materials -10th edition by R. C. Hibbeler

References: Strength of Materials- Elementary Theory and Problems- Part I- 2nd edition by S. Timoshenko

Description: The course introduces concepts of stress and strain, properties of materials, axial loading, torsion, pure bending, analysis and design of beam for bending, shear stress in beams, transformation of stress and strain, deflection of beams, columns, and energy methods.

Instructor: **Dr. Mais Aldwaik**
Email: maldwaik@philadelphia.edu.jo
Office: Civil engineering building, room 214
Office hours: Sun, Tue: 11:15-12:30 & Mon, Wed: 9:45-11:00

Course Outline:

Week	Topics
1	Introduction and Basic Concepts of Solid Mechanics
2	Stress and strain
3	Mechanical properties of materials
4,5	Axial Loading
6,7	Torsion
8,9	analysis and design of beam for bending
10,11	. shear stress in beams
12,13	Transverse shear
14, 15	Deflection of beams

Course Learning Outcomes and Relation to ABET Student Outcomes:

Upon successful completion of this course, a student should be able to:

1.	Understand the basic concepts of solid mechanics: stress and strain.	1, 7
2.	Define the mechanical properties of materials.	1, 7
3.	Perform limit state design for members.	1, 4, 7
4.	Analyze and design of members for bending, Axial loading, and torsion	1, 2, 7
5.	Determine Shear stress in beams.	1, 2, 7
6.	Calculate deflection of beams under various loading and support conditions.	2, 7

Assessment Guidance

Evaluation of the student performance during the semester (total final grade) will be conducted according to the following activities:

Exams: Students will be subjected one midterm exam during the semester.

Quizzes: One-two quizzes of (10-15) minutes will be conducted during the semester. The materials of the quizzes are set by the lecturer.

Homework: One-two homeworks will be assigned during the semester. You are usually given one week to submit each home work. Homework should be solved individually and submitted before or on a set agreed date.

A report with specific subject for each student will also be assigned during the semester, using PU library resources is required.

Cheating by copying homework from others is strictly forbidden and punishable by awarding the work with zero mark.

Projects: One course project will be required by the end of the semester. Microsoft Excel will be used for the project.

Final Exam: Students will undergo a scheduled final exam at the end of the semester covering the whole materials taught in the course.

Grading policy

Midterm Exam	30%
Home works, Quizzes, and Projects	30%
Final Exam	40%
Total:	100%

Attendance Regulation

The semester has in total 45 credit hours. Total absence hours from classes and tutorials must not exceed 15% of the total credit hours. Exceeding this limit without a medical or emergency excuse approved by the deanship will prohibit the student from sitting the final exam and a zero mark will be recorded for the course. If the excuse is approved by the deanship the student will be considered withdrawn from the course.

Philadelphia University

Faculty of Engineering & Technology
Department of Civil Engineering
Second Semester 2022/2023

Course Information

Title:	
Prerequisite:	250102
Credit Hours:	3 credit hours (16 weeks per semester, approximately 44 contact hours)
Textbook:	Engineering Geology ,Principles and Practice, by David George
References:	Engineering Geology ,F G Bell
Course Description:	Engineering geology is an applied geology discipline that involves the collection, analysis, and interpretation of geological data and information required for the safe development of civil works.
Website:	http://www.philadelphia.edu.jo/academics/----------

Instructor:	Eng.Adnan Abdelhadi **Email**: ----------@philadelphia.edu.jo **Office**: Engineering building, room D 210, ext.: 2604 **Virtual Office hours**: Sun, Tues: 9:30-12:30 Mon, Wed, 11:15-12:45 • Open sessions in MS Teams. • Moodle chat. • MS Teams chat.
Technology Requirements	• Personal computer, laptop, or mobile phone. • Internet Connection. • Access to Philadelphia University E-Learning Portal (MS Teams and Moodle)
Learning Style	Online/Blended
Communication	• Announcement: the announcements will be posted in MS Teams or Moodle on a regular basis. • Email. • MS Teams or Moodle chats.
Class Recording	• All Synchronous lectures will be recorded and will be available on MS Teams.

Course Objectives:

This course aims to:

- Study the geological factors regarding the location, design, construction, operation and maintenance of engineering works.
- Participate in civil or structural engineering design and value engineering and construction phases of public and private works projects.
- Study the various types of soils and to classify the best soil to be used for a specific engineering construction.

Course Learning Outcomes (CLO) and Relation to ABET Student Outcomes

[1]	**CLO 1**: Understand the meaning of engineering geology	**ABET : 1,2**
[2]	**CLO 2**: Study the physical properties of minerals	**ABET : 1,2**
[3]	**CLO 3**: Identification of minerals and rocks:	**ABET : 1,2,3**
[4]	**CLO 4**: Understand the meaning of earthquakes and its evaluation	**ABET : 2,3**
[5]	**CLO 5 : Study the formation of different types of soils and their classifications**	**ABET : 1,2**

Grading Policy and Assessment Instruments

Evaluation of students' performance (final grade) will be based on the following categories

Graded Item	Marks	Topic (s)	Course LO (s)	Learning Portal: MS Teams/ Moodle/ F2F/Others	Week
Mid Exam	30%	Earth Structure Minerals and their properties Rocks and their properties	1,2,3	MS Teams	7
Quizzes & Home works	30%	Rocks and their properties Deformations ,Stresses and Strain in Rocks	1,2,3	MS Teams	3-15
Final Exam	40%	All Topics	1,2,3	MS Teams	16

Total marks	100%

- Two written exams will be given.
- Copying homework is forbidden, any student caught copying the homework or any part of the homework will receive zero marks for that homework.
- Quizzes: 10-minute quizzes will be given to the students during the semester. These quizzes will cover material discussed during the previous lecture(s).
- Homework: Problem sets will be given to students. Homework should be solved individually and submitted before the due date.
- The final exam will cover all the class material.

Course contents: Learning Resources/ References/ Activities/ Assessment Methods

Week	Lecture	Topic	CLO	Learning Resources/ References/ Activities/ Assessment Method	Learning Style	Learning Portal
					F2F/ Synchronous/ Asynchronous	On campus /MS Teams /Moodle /Others
1,2,3,4,5,6	1,2	Introduction	1	videos lunched on MS-team and etc.	Asyn	MS Teams
	3,4,5,6,7	Earth Structure	1,2	videos lunched on MS-team and etc.	Syn	MS Teams
	8,9,10,11,12	Minerals and their properties	1,2	videos lunched on MS-team and etc.	Syn	MS Teams
7,8,9,10,11	13,14,15	Rocks and their properties	1,2,3	videos lunched on MS-team and etc.	Syn	MS Teams
	16,17,18,19	Deformations ,Stresses and Strain in Rocks	2,3	videos lunched on MS-team and etc.	Syn	MS Teams
	20,21,22	Modulus of Elasticity of Rocks	1,2	videos lunched on MS-team and etc.	Asyn	MS Teams
12,13,14,15,16	23,24,25,26,27,28,29,30,31,32,33	Site Investigation	1,2	videos lunched on MS-team and etc.	Syn	MS Teams
	34,35,36,37	Earthquakes	1	videos lunched on MS-team and etc.	Asyn	MS Teams

	38,39,40,41,42,43,44	Soil Classification	1,2,3	videos lunched on MS-team and etc.	Syn	MS Teams

Credit hours contact

Credit Hours Distribution Report	
Learning Style	**Credit hours**
F2F	0
Synchronous	16
Asynchronous	32
Total	

Academic Honesty/ student conduct

As a student at Philadelphia University, you are expected to follow the university regulations and guidelines for academic honesty/student conduct found in student handbook.

This means that you should not cheat, plagiarize and let another student use your account in LMS learning portals.

Attendance policy:

Absence from classes and/or tutorials shall not exceed 15%. Students who exceed the 15% limit without a medical or emergency excuse, acceptable to and approved by the Dean of the relevant college/faculty, shall not be allowed to take the final examination and shall receive a mark of zero for the course. If the excuse is approved by the Dean, the student shall be considered to have withdrawn from the course.

March 2023

Philadelphia University

Faculty of Engineering & Tech. - Civil Engineering Department
Second Semester 2022/2023

Course Details:

Title:	Surveying ,0670261
Prerequisite:	250102
Credit Hours:	3 credit hours (16 weeks per semester, approximately 45 contact hours)
Textbook:	Elementary surveying. 12th edition Galini and Wolf (USA 2008).
References:	Surveying principles and practices, 5th edition , Nathenson,Lanzafama and Kissam,USA 2005
Course Description:	The course is a requirement for all Civil Engineering students. It introduces the basic principles of fundamentals of surveying. Principle of surveying , distance measurements (direct , optical and electronic methods), leveling ; contouring , angle measurements, traverse survey ,coordinate geometry , areas and volumes, setting out horizontal and vertical curves.
Website:	http://www.philadelphia.edu.jo
Instructor:	Eng. Adnan Abdelhadi **Email**: adnan_m_abdelhadi@yahoo.com **Office hours:** Sun,& Tue,:9:30- 12: 30 -Mon. & Wed:11:15 -12:45

Course Outlines:

Week	Topic
1	Introduction
2	Distance Measurements
3	Directions
4	Angles
5,6,7	Traverse &Applications (Open, Closed, Loop and ,Link)
8,9	Leveling , Methods & Applications
10,11	Contouring
12,13	Cross Sections
14,15	Earth Works Computations
16	General Review, and Final Examination

Course Learning Outcomes with reference to ABET Student Outcomes:

Upon successful completion of this course, student should:

1.	Be able to learn the basic of surveying equipment	[1, 2,]
2.	Recognize and apply trigonometric formulas to solve variety of practical problems	[2, 6]
3.	Learn value of measurements	[1 ,2, 6]
4.	Ability to solve most of the surveying problems	[1 , 2]
5.	Analyzing surveying data effectively	[1 , 2 ,6]
6.	Determine and define results	[1]

Assessment Guidance:

Evaluation of the student performance during the semester (Total Final Grade) will be conducted according to the following activities:

Sub-Exams: The students will be subjected to two scheduled written exams, first exam and second exam during the semester. Each exam will cover materials given in lectures in the previous 4 – 5 weeks.

Quizzes: (3-5) quizzes of (10-15) minutes will be conducted during the semester. The materials of the quizzes are set by the lecturer.

Homework and projects: Tutorials sheets will be handed out to the students and homework should be solved individually and submitted before or on a set agreed date. Student may be assigned to present project(s).

Cheating by copying homework from others is strictly forbidden and punishable by awarding the work with zero mark.

Collective Participation: Brain storming and collective discussions will be carried out during any lecture. Individual student will be assessed accordingly.

Final Exam: The students will undergo a scheduled final exam at the end of the semester covering the whole materials taught in the course.

Grading policy:

Mid Term Exam	30%
Quizzes and participation	30%
Final Exam	40%
Total:	100%

Attendance Regulation:

The semester has in total 45 credit hours. Total absence hours from classes and tutorials must not exceed 15% of the total credit hours. Exceeding this limit without a medical or emergency excuse approved by the deanship will prohibit the student from sitting the final exam and a zero mark will be recorded for the course. If the excuse is approved by the deanship the student will be considered withdrawn from the course.

Oct, 2022

Philadelphia University

Faculty of Engineering and Technology
Department of Civil Engineering
Second Semester 2022/2023

Course Details:

Title:	Structures 1 (0670311)
Prerequisite:	Strength of materials (0670212)
Credit Hours:	3 credit hours (15 weeks per semester, approximately 45 contact hours)
Textbook:	Structural Analysis- 8th edition, by R.C Hibbeler, Pearson Prentice Hall; 2012
References:	Fundamentals of Structural analysis-2nd edition, by K.M. Leet, McGraw Hill, 2005
Course Description:	Classification of Structures and Loads; Analysis of Statically Determinate Structures and Trusses (Idealized Structures, Principal of Superposition, Equations of Equilibrium, Determinacy and Stability, Application of the Equations of Equilibrium, Common Types of Trusses, Classification of Coplanar Trusses, and Methods of Joints and Sections), Internal Loadings Developed in Structural Members (Internal Loadings at a Specified Point, Shear and Moment Functions, Shear and Moment Diagrams for Beams and Frames, and Moment Diagrams Constructed by the Method of Superposition); Influence Lines for Statically Determinate Structures (Influence Lines for Beams, Qualitative Influence Lines, Influence Lines for Trusses, and Maximum Influence at a Point due to a Series of Concentrated Loads); Deflections (Deflection Diagrams and the Elastic Curve, Elastic-Beam Theory, The Double Integration Method, Moment-Area Theorems, Conjugate-Beam Method); Deflections Using Energy Methods.
Website:	http://www.philadelphia.edu.jo/academics/aobaidat/
Instructor:	Dr. Ala' Taleb Obaidat **Email**: aobaidat@philadelphia.edu.jo **Office**: Civil engineering building, Room 216, ext: 2690 **Class hours**: Mon, Wed: 11:15-12:45 **Office hours**: Sun, Tues: 10:00-11:30 and 12:00-13:00 Mon, Wed: 13:-14:00

Course Outlines:

Week	Topic
1	Introduction
2	Chapter 1: Classification of structures and loads
3,4	Chapter 2: Analysis of statically determinate structures (equilibrium, superposition and determinacy)
5,6	Chapter 3: Analysis of statically determinate trusses
7,8	Chapter 4: Internal loadings in structural members
10,11	Chapter 8: Deflections
12,13	Chapter 9: Deflections using energy methods
14,15	Chapter 6: Influence lines for determinate structures

Course Learning Outcomes with reference to ABET Student Outcomes:

Upon successful completion of this course, student should:

1.	Provide a thorough understanding and practical applications of structural analysis theories	[1]
2.	Develop the skills to analyze the behavior and response of structures to various loads and constraints.	[1]
3.	Analyze determinate structures (truss, beam and frame) under various loading conditions.	[1, 2]
4.	Determine internal loads (axial, shear and moment) in structural members using equilibrium and compatibility equations.	[1 , 2]
5.	Determine reactions and internal loading in structural elements due to moving (dynamic) loads.	[1 , 2]
6.	Employ deflection methods for calculation of deflection.	[1, 2]

Assessment Guidance:

Evaluation of the student performance during the semester (total final mark) will be conducted according to the following activities:

Sub-Exams: The students will be subjected to two scheduled written exams, first exam and second exam during the semester. Each exam will cover materials given in lectures in the previous 3-4 weeks.

Quizzes: (3-5) quizzes of (10-15) minutes will be conducted during the semester. The materials of the quizzes are set by the lecturer.

Homework: Tutorials sheets will be handed out to the students and homework should be solved individually and submitted before or on a set agreed date.

Cheating by copying homework from others is strictly forbidden and punishable by awarding the work with zero mark.

Collective Participation: Brain storming and collective discussions will be carried out during any lecture. Individual studentwill be assessed accordingly.

Final Exam: The students will undergo a scheduled final exam at the end of the semester covering the whole materials taught in the course.

Grading policy:

First Exam	20%
Second Exam	20%
Homework and Quizzes	20%
Final Exam	40%
Total:	100%

Attendance Regulation:

The semester has in total 45 credit hours. Total absence hours from classes and tutorials must not exceed 15% of the total credit hours. Exceeding this limit without a medical or emergency excuse approved by the deanship will prohibit the student from sitting the final exam and a zero mark will be recorded for the course. If the excuse is approved by the deanship the student will be considered withdrawn from the course.

Philadelphia University

Faculty of Engineering and Technology
Department of Civil Engineering
Second Semester 2022/2023

Course Details:

Title:	Pavement Design (0670323)
Prerequisite:	Geometric Design of Highways (0670324)
Credit Hours:	3 credit hours (15 weeks per semester, approximately 45 contact hours)
Textbook:	Traffic and Highway Engineering by Nicholas J. Garber, Laster A. Hoel, 4 ed.
References:	- Wright, Paul H., Highway Engineering, Seventh Edition, John Wiley, New York, 2004. - Principles of pavement design by Yoder Witczak, 2nd ed., 1975 - Pavement design ,by Huang, 2nd ed., 2012
Course Description:	This course is designed for civil engineering students in their third year. This course introduces students to the pavement materials, flexible pavement mix design and construction, highway drainage and drainage facilities, and rehabilitation of roads.
Website:	http://www.philadelphia.edu.jo/academics/aassouli/
Instructor:	Eng. Adnan Abdelhadi **Email**: aabdelhadi@philadelpia.edu.jo **Office**: Civil Engineering Building, Room D 210, Ext:2604 **Office hours**: : Sun. & Tues: 9:30-12:30 -Mon.& Wed.1115-12:45

Course Outlines:

Week	Topic
1	Introduction
2	Pavement types
3	Highway Materials-Soils
4	Highway Materials -Aggregates
5	Highway Materials -Aggregates
6	Highway Materials - Asphalts
7	Bases, Subbases, & Low Cost
8	Highway Type Bituminous Pavements
9	Highway Type Bituminous Pavements
10	HMA Construction and Placement
11	Flexible Pavement Thickness Design
12	Rigid Pavement Design
13	Rehabilitations and highway maintenance
14	Drainage and drainage structures
15	Project Presentation
16	FINAL EXAMS

Course Learning Outcomes with reference to ABET Student Outcomes:

Upon successful completion of this course, student should:

1	To know the Properties of materials used in highway pavements (soils, aggregates, and bituminous binders).	[1,2,6]
2	To know Different pavement types (flexible and rigid) and different types within each category (high-type HMA pavements, as conventional and full depth, and low cost surfaces).	[1,2,6]
3	Design the thicknesses of the layers composing the highway pavements	[1,2,6]
4	Providing adequate drainage means and facilities to guard the big investments in roadways from water damages.	[1,2,6]
5	Methods of designing the hot asphalt mix using Marshal Method.	[1 2,6]
6	Sources of distresses in the pavements and the methods of repair.	[1,2,6]

Assessment Guidance:

Evaluation of the student performance during the semester (Total final mark) will be conducted according to the following activities:

Midterm Exam:	The students will be subjected to one scheduled online exam during the semester. The exam will cover materials given in lectures in the previous weeks prior to the date of the midterm.
Quizzes:	(2) Quizzes of (10-15) minutes will be conducted during the semester. The materials of the quizzes are set by the lecturer.
Homework and projects:	Tutorials sheets will be handed out to the students should be solved as group and submitted before or on a set agreed date. Student may be assigned to present (4) home works. Cheating by copying homework from others is strictly forbidden and punishable by awarding the work with zero mark.
Final Exam:	The students will undergo a scheduled –online-final exam at the end of the semester covering the whole materials taught in the course.

Grading policy:

Mid Term Exam	30%
Homework, Projects, Quizzes & Home works	30%
Final Exam	40%
Total:	100%

Attendance Regulation:

The semester has in total 45 credit hours. Total absence hours from classes and tutorials must not exceed 15% of the total credit hours. Exceeding this limit without a medical or emergency excuse approved by the deanship will prohibit the student from sitting the final exam and a zero mark will be recorded for the course. If the excuse is approved by the deanship the student will be considered withdrawn from the course.

Philadelphia University

Faculty of Engineering and Technology
Department of Civil Engineering
2nd Semester 2022/2023

Course Details:

Title:	Soil Mechanics (0670331)
Prerequisite:	Engineering Geology (0670231)
Credit Hours:	3 credit hours (15 weeks per semester, approximately 45 contact hours)
Textbook:	Soil Mechanics, SI Version, T.W. Lambe and R.V. Whitman, 2008, John Wiley & Sons, New York
References:	Craig's Soil Mechanics, 8th ed., J.A. Knappet & R.F. Craig Engineering Properties of Soils and their Measurements, J.E. Bowles
Course Description:	A study of the formation of soil, grain sizes and types, mineral composition, classification of soils, weight-volume relationships, compaction, permeability and fluid flow through soil, stresses within a soil mass, consolidation and settlement, and shear strength of soils.
Website:	http://www.philadelphia.edu.jo/academics/aodeibat/
Instructor:	Eng. Abdallah Odeibat **Email**: aodeibat@philadelphia.edu.jo **Office**: Civil Engineering Building, Room 214 **Class hours**: Sun, Tues: 11:15-12:30 **Office hours**: Sun, Tues: 8:15-9:45 and 12:30-14:15 Mon, Wed: 8:15-9:45 and 12:30-14:15

Course Outlines:

Week	Topic
1	Introduction to soil mechanics
2 , 3 , 4	Basic characteristics of soils
5 , 6	Classification and Compaction of soils
7 , 8 , 9	Fluid flow through soil
10 , 11 , 12	Stresses within a soil mass
13 , 14	Shear strength of soils
15 , 16	Introduction to Consolidation and settlement

Course Learning Outcomes with reference to ABET Student Outcomes:

Upon successful completion of this course, student should:

1.	Understand the origin of soil grains, types, sizes and their classification	1 , 6
2.	Understand and calculate the basic properties of soil.	1 , 2
3.	Understand and calculate the fluid flow through soil (1-D)	1 , 2 , 6
4.	Understand the mechanism of stress distribution (geostatic and external) within a soil mass	1 , 2 , 6
5.	Understand the principal stresses and the shear strength within a soil mass and be able to calculate the shear strength of a soil	1 , 2 , 6

Assessment Guidance:

Evaluation of the student performance during the semester (total final mark) will be conducted according to the following activities:

Sub-Exams:	The students will be subjected to one scheduled written exam, midterm exam during the online semester. The exam will cover materials given in lectures in the previous 3-4 weeks.
Quizzes:	(3-4) Quizzes of (15-20) minutes will be conducted during the online semester. The materials of the quizzes are set by the lecturer.
Homework and projects:	Tutorials sheets will be handed out to the students and homework should be solved individually and submitted before or on a set agreed date. Student may be assigned to present project(s). Cheating by copying homework from others is strictly forbidden and punishable by awarding the work with zero mark.
Collective Participation:	Brain storming and collective discussions will be carried out during any lecture. Individual student will be assessed accordingly.
Final Exam:	The students will undergo a scheduled final exam at the end of the semester covering the whole materials taught in the course.

Grading policy:

Mid Term Exam	30%
Quizzes and participation	30%
Final Exam	40%
Total:	100%

Attendance Regulation:

The semester has in total 45 credit hours. Total absence hours from classes and tutorials must not exceed 15% of the total credit hours. Exceeding this limit without a medical or emergency excuse approved by the deanship will prohibit the student from sitting the final exam and a zero mark will be recorded for the course. If the excuse is approved by the deanship the student will be considered withdrawn from the course.

Philadelphia University

Faculty of Engineering & Technology - Department of Civil Engineering

2nd Semester 2022/2023

Course Details:

Title: Fluid Mechanics (**0670381**)

Prerequisite: **0670211**

Credit Hours: 3 credit hours (16 weeks per semester, approximately 44 contact hours)

Textbook: Fluid Mechanics; Russell C. Hibbeler, Pearson, 2014

References:

- Fundamentals of Hydraulic Engineering Systems (4th Edition) Robert J. Houghtalen, Robert J. Houghtalen, A. Osman H. Akan & Ned H. C. Hwang, Pearson, 2010, 4th Edition
- Engineering fluid mechanics, Roberson J.A., and Crowe C.T, John Wiley and sons., (9th Edition).

Course Description: This course is designed for civil engineering students in their third year. The course intends to give students a comprehensive idea about the fluid prosperities, basic units. Fluid statics, pressure and its measurements, force on plane and curved submerged surface, floatation. Fluid in motion, flow kinematics and visualization, Control volume approach, differential and integral continuity equation, pressure variation in flowing fluids, Euler's and Bernoulli's equations, application of Bernoulli equation, momentum principle and its applications.

Website: http://www.philadelphia.edu.jo/academics/aodeibat

Instructor: Eng. Abdallah Odeibat
Email: aodeibat@philadelphia.edu.jo
Office: Civil Engineering building, room 61-215
Office hours: Sun, Tues: 12:00-14:00 and Mon, Wed: 11:00 -14:00

Course Outlines:

Week	Topic
1	Introduction, fluid definitions and its various
2&3	Principle of fluid static
4&5	Flow concepts and conservation of mass principle
6,7&8	Pressure variation and Bernoulli's equation
9,10&11	Momentum principle
12&13	Energy principle
14	Dimensional analysis
15	Flow concepts and conservation of mass principle

Course Learning Outcomes with reference to ABET Student Outcomes:

Upon successful completion of this course, student should:

1.	Be able to solve specific engineering problems related with fluid static	[1,2]
2.	Be able to develop methods to solve an engineering problem	[6]
3.	Have the ability to read and understand fluid mechanics problems	[2 , 6]
4.	Understand the basics of fluid mechanics at rest	[1]
5.	Understand the concept of fluid in motion and have the ability to solve problems	[1 , 2]

Assessment Guidance:

Evaluation of the student performance during the semester (total final mark) will be conducted according to the following activities:

Sub-Exams: The students will be subjected to two scheduled written exams, first exam and second exam during the semester. Each exam will cover materials given in lectures in the previous 3-4 weeks.

Quizzes: (3-4) quizzes of (15-20) minutes will be conducted during the semester. The materials of the quizzes are set by the lecturer.

Homework and projects: Tutorials sheets will be handed out to the students and homework should be solved individually and submitted before or on a set agreed date. Student may be assigned to present project(s).

Cheating by copying homework from others is strictly forbidden and punishable by awarding the work with zero mark.

Collective Participation: Brain storming and collective discussions will be carried out during any lecture. Individual student will be assessed accordingly.

Final Exam: The students will undergo a scheduled final exam at the end of the semester covering the whole materials taught in the course.

Grading policy:

Mid-term Exam	30%
Quizzes and participation	30%
Final Exam	40%
Total:	100%

Attendance Regulation:

The semester has in total 45 credit hours. Total absence hours from classes and tutorials must not exceed 15% of the total credit hours. Exceeding this limit without a medical or emergency excuse approved by the deanship will prohibit the student from sitting the final exam and a zero mark will be recorded for the course. If the excuse is approved by the deanship the student will be considered withdrawn from the course.

Philadelphia University

Faculty of Engineering and Technology
Department of Civil Engineering
Second Semester 2022/2023

Course Information

Title: **Reinforced Concrete I (0670411)**
Concrete and Steel Structures (0670416)
Sun, Tue 9:45-11:00
Classroom: 206

Prerequisite: Structures II (0670312)

Credit Hours: 3 credit hours (15 weeks per semester, approximately 45 contact hours)

Textbook:
- Nilson, A.H., Darwin, D., and Dolan, C.W. (2013). "Design of Concrete Structures", 14th edition , McGraw Hill, 2009
- William T. Segui (2012). "Steel Design", 5th edition.

References:
- ACI Code (ACI 318 M -11).
- Design of Reinforced Concrete by J. C. McCormac and R.H. Brown, 8th Edition, John Wiley & Sons.

Course Description: Basic concepts of ultimate strength design method, behavior of ductile and brittle modes of failure of reinforced concrete sections under bending, analysis of reinforced concrete sections under bending, design of reinforced concrete sections under bending, reinforcement layout and detailing. Shear behavior of reinforced concrete sections, design for shear reinforcement, analysis and design of reinforced concrete solid slab and ribbed slab, analysis and design of short columns under axial and bending, analyze steel and its structural properties, design of tension members, design of compression members.

Website: https://www.philadelphia.edu.jo/academics/maldwaik/

Instructor: **Dr. Mais Aldwaik**
Email: maldwaik@philadelphia.edu.jo
Office: Civil engineering building, room 214
Office hours: Sun, Tues, Thu: 11:00-12:30. Mon, Wed: 9:45-11:15

Course Outline

Week	Topic
1,2	Introduction, Reinforced concrete and building codes
3	Loading, cracked and uncracked behavior, stress block
4,5,6	Flexural analysis and design of reinforced concrete beams, single reinforced, double reinforced, T-beams
7,8	Shear and diagonal tension in beams
9,10	Analysis and design of one-way slabs
11,12	Short Columns
13,14,15	Introduction to steel-materials, Design of tension members, Design of Compression members

Course Learning Outcomes with reference to ABET Student Outcome

Upon successful completion of this course, students should:

1.	Recognize design sequence and process for designing of RC structures.	1,2
2.	Learn how to use and apply building codes (ACI and AISC)	7
3.	Establish an understanding of the mechanical behaviors of reinforcement steel, concrete and reinforced concrete members, and steel members.	2,7
4.	Understand the flexural behavior of reinforced concrete beams, investigate and design beams and slabs for bending and shear, and short columns for axial and bending loads.	2,7
5.	Analyze and design of compression and tension behavior of steel members	1,2,7

Assessment Guidance

Evaluation of the student performance during the semester (total final grade) will be conducted according to the following activities:

Exams: Students will be subjected one midterm exam during the semester.

Quizzes: Two-four quizzes of (10-15) minutes will be conducted during the semester. The materials of the quizzes are set by the lecturer.

Homework: One-three homeworks will be assigned during the semester. You are usually given one week to submit each home work. Homework should be solved individually and submitted before or on a set agreed date.

Cheating by copying homework from others is strictly forbidden and punishable by awarding the work with zero mark.

Projects: One course project will be required by the end of the semester. Microsoft Excel will be used for the project.

Final Exam: Students will undergo a scheduled final exam at the end of the semester covering the whole materials taught in the course.

Grading policy

Midterm Exam	30%
Home works, Quizzes, and Projects	30%
Final Exam	40%
Total:	100%

Attendance Regulation

The semester has in total 45 credit hours. Total absence hours from classes and tutorials must not exceed 15% of the total credit hours. Exceeding this limit without a medical or emergency excuse approved by the deanship will prohibit the student from sitting the final exam and a zero mark will be recorded for the course. If the excuse is approved by the deanship the student will be considered withdrawn from the course.

Philadelphia University

Faculty of Engineering and Technology
Department of Civil Engineering
Second Semester 2022/2023

Course Details:

Title:	Structures 1 (0670312)
Prerequisite:	Strength of materials (0670311)
Credit Hours:	3 credit hours (15 weeks per semester, approximately 45 contact hours)
Textbook:	Structural Analysis- 8th edition, by R.C Hibbeler, Pearson Prentice Hall; 2012
References:	Books 1) McCormac, J.C., Structural Analysis, Harper Collins Publishers. 2) Norris, C. H., Wilbur, J. B., and Utku, S., Elementary Structural Analysis, McGraw - Hill Book Company. 3) Wang, C. K., Intermediate Structural Analysis, McGraw - Book Company. 4) West, H. H., Analysis of Structures, John Wiley & Sons. 5) Laursen, H. I., Structural Analysis, McGraw - Hill Book Company. 6) Gali, A., and Neville, A. M., Structural Analysis, Chapman and Hall.
Course Description:	Able to use the force method for the analysis of statically indeterminate beams, frames, trusses, and composite structures, Able to use the slope deflection equations for the analysis of statically indeterminate beams and frames, Able to analyze continuous beams and frames using the moment distribution method, and Introduce the computer and software-based matrix structural analysis method.
Website:	http://www.philadelphia.edu.jo/academics/aobaidat/
Instructor:	Dr. Ala' Taleb Obaidat **Email**: aobaidat@philadelphia.edu.jo **Office**: Civil engineering building, Room 216, ext: 2690 **Class hours**: Mon, Wed: 09:45-11:15 **Office hours**: Sun, Tues: 10:00-11:30 and 12:00-13:00 Mon, Wed: 13:-14:00

Course Outlines:

Week	Topic
1	Introduction
2	The force method for the analysis of statically indeterminate beams
3,4	The force method for the analysis of statically indeterminate beams
5,6	The slope deflection equations for the analysis of statically indeterminate beams and frames
7,8	The slope deflection equations for the analysis of statically indeterminate beams and frames
10,11	Analyze continuous beams and frames using the moment distribution method
12,13	Analyze continuous beams and frames using the moment distribution

	method
14,15	Introduce the computer and software-based matrix structural analysis method

Course Learning Outcomes with reference to ABET Student Outcomes:

Upon successful completion of this course, student should:

1.	Able to use the force method for the analysis of statically indeterminate beams, frames, trusses, and composite structures	[1]
2.	Able to use the slope deflection equations for the analysis of statically indeterminate beams and frames.	[1,2]
3.	Able to analyze continuous beams and frames using the moment distribution method	[1, 3]
4.	Introduce the computer and software based matrix structural analysis method.	[1 , 2]

Assessment Guidance:

Evaluation of the student performance during the semester (total final mark) will be conducted according to the following activities:

Sub-Exams: The students will be subjected to two scheduled written exams, first exam and second exam during the semester. Each exam will cover materials given in lectures in the previous 3-4 weeks.

Quizzes: (3-5) quizzes of (10-15) minutes will be conducted during the semester. The materials of the quizzes are set by the lecturer.

Homework: Tutorials sheets will be handed out to the students and homework should be solved individually and submitted before or on a set agreed date.

Cheating by copying homework from others is strictly forbidden and punishable by awarding the work with zero mark.

Collective Participation: Brain storming and collective discussions will be carried out during any lecture. Individual studentwill be assessed accordingly.

Final Exam: The students will undergo a scheduled final exam at the end of the semester covering the whole materials taught in the course.

Grading policy:

First Exam	20%
Second Exam	20%
Homework and Quizzes	20%
Final Exam	40%
Total:	100%

Attendance Regulation:

The semester has in total 45 credit hours. Total absence hours from classes and tutorials must not exceed 15% of the total credit hours. Exceeding this limit without a medical or emergency excuse approved by the deanship will prohibit the student from sitting the final exam and a zero mark will be recorded for the course. If the excuse is approved by the deanship the student will be considered withdrawn from the course.

Philadelphia University

Faculty of Engineering and Technology
Department of Civil Engineering
Second Semester 2022/2023

Course Information

Title: **Reinforced Concrete II (0670412)**
Mon, Wed 8:15-9:30
Classroom: 206

Prerequisite: Reinforced Concrete I (0670411)

Credit Hours: 3 credit hours (15 weeks per semester, approximately 45 contact hours)

Textbook: Nilson, A.H., Darwin, D., and Dolan, C.W. (2013). "Design of Concrete Structures", 14th edition , McGraw Hill, 2009

References:
- ACI Code (ACI 318 M -11).
- Design of Reinforced Concrete by J. C. McCormac and R.H. Brown, 8th Edition, John Wiley & Sons.

Course Description: Serviceability requirements of flexural members. Members subjected to Torsion and combined Shear and torsion. Design of slender (Long) columns, sway and non-sway frames. Two-way slab design: Solid and Ribbed, Coefficient Method, Direct Design Method, and Equivalent Frame Method. Stairs design. Foundation design (wall, isolated, eccentric, combined). Structural walls design: Shear walls, retaining walls.

Website: https://www.philadelphia.edu.jo/academics/maldwaik/

Instructor: **Dr. Mais Aldwaik**
Email: maldwaik@philadelphia.edu.jo
Office: Civil engineering building, room 214
Office hours: Sun, Tues, Thu: 11:00-12:30. Mon, Wed: 9:45-11:15.

Course Outline

Week	Topic
1,2	Introduction, Serviceability analysis: deflection
5,6	Serviceability: Crack width
3,4	Beam torsion analysis and design
8,9	Design of slender (Long) columns, sway and non-sway frames
10,11,12	Foundation design (wall, isolated, eccentric, combined)
13	Stairs design
14,15	Two-way slab design: Coefficient Method, Direct Design Method, and Equivalent Frame Method

Course Learning Outcomes with reference to ABET Student Outcome

Upon successful completion of this course, students should:

1.	Understand and apply serviceability requirements for RC beams and slabs	1,2
2.	Analyze and design members subjected to torsion, and combined shear and torsion.	1,2
3.	Distinguish between sway and nonsway frames, short and long (slender) columns.	2,7
4.	Decide of which foundation system is required for vertical elements, and design of single and combined foundations.	2,7
5.	Understand the flexural behavior of two-way reinforced concrete slabs under uniformly distributed loads using the Direct Design Method and the Equivalent Frame Method	2,7
6.	Apply the basic principles of the ACI provisions to RC elements design.	7

Assessment Guidance

Evaluation of the student performance during the semester (total final grade) will be conducted according to the following activities:

Exams: Students will be subjected to a midterm exam during the semester.

Quizzes: Two-four quizzes of (10-15) minutes will be conducted during the semester. The materials of the quizzes are set by the lecturer.

Homework: One-three homeworks will be assigned during the semester. You are usually given one week to submit each home work. Homework should be solved individually and submitted before or on a set agreed date.

Cheating by copying homework from others is strictly forbidden and punishable by awarding the work with zero mark.

Collective Participation: Brain storming and collective discussions will be carried out during any lecture. Individual students will be assessed accordingly.

Final Exam: Students will undergo a scheduled final exam at the end of the semester covering the whole materials taught in the course.

Grading policy

Midterm Exam	30%
Home works, Quizzes, and term work	30%
Final Exam	40%
Total:	100%

Attendance Regulation

The semester has in total 45 credit hours. Total absence hours from classes and tutorials must not exceed 15% of the total credit hours. Exceeding this limit without a medical or emergency excuse approved by the deanship will prohibit the student from sitting the final exam and a zero mark will be recorded for the course. If the excuse is approved by the deanship the student will be considered withdrawn from the course.

Philadelphia University

Faculty of Engineering and Technology -
Department of Civil Engineering
2nd Semester 2022/2023

Course Details:

Title:	Steel Structures (0670414)
Prerequisite:	Structural Analysis II
Credit Hours:	2 credit hours (15 weeks per semester, approximately 30 contact hours)
Textbook:	1- W.T., Segui, "Steel Design", Cengage Learning, 5th edition, 2012. 2- AISC Steel Construction Manual, 14th edition, 2011.
References:	1. J.C. McCormac, S.F. Csernak, "Structural Steel Design", Pearson, 5th edition, 2011. 2. C.G., Salmon, J.E. Johnson, F.A., Malhas, "Steel Structures Design and Behavior", Prentice Hall, 5th edition, 2009. 3. American Institute of Steel Construction. "Detailing for Steel Construction". AISC/NSD, 3 rd edition, 2009. 4. American Society of Civil Engineers. 2010. "Minimum Design Loads for Buildings and Other Structures". ASCE/SEI 7-10. Reston, VA.
Course Description:	This course covers the fundamental theories and principles of design of simple steel structures using LRFD Method. This course includes design and investigation of beams, tension and compression members.
Website:	http://www.philadelphia.edu.jo/academics/aodeibat/
Instructor:	Eng. Abdallah Odeibat **Email**: aodeibat@philadelphia.edu.jo **Office**: Civil Engineering Building, Room 215 **Office hours**: Sun, Tues : 12:00-14:00 and Mon, Wed: 11:00-14:00

Course Outlines:

Week	Topic
1	Review and Chapter One: Introduction
2,3	Chapter Two: Concept in Structural Steel Design
4, 5, 6,7	Chapter Three: Tension Members
8, 9, 10,11	Chapter Four: Compression Members
12,13,14,15	Chapter Five: Beams
16	Final Exam

Course Learning Outcomes with reference to ABET Student Outcomes:

Upon successful completion of this course, student should:

1.	Be familiar with the AISC Steel Construction Manual	7
2.	understand the concepts of structural design by the Load and Resistance Factor Design method and the Allowable Stress Design method, and will understand the differences between the methods	1,2,7
3.	Analyze and design steel tension members	2,7
4.	And analyze and design steel compression members	2,7
5.	Analyze and design steel beams	2,7

Assessment Guidance:

Evaluation of the student performance during the semester (total final mark) will be conducted according to the following activities:

Sub-Exams: The students will be subjected to one scheduled exam during the semester.

Quizzes: (2-3) quizzes of (15-20) minutes will be conducted during the semester. The materials of the quizzes are set by the lecturer.

Cheating by copying homework from others is strictly forbidden and punishable by awarding the work with zero mark.

Collective Participation: Brain storming and collective discussions will be carried out during any lecture. Individual student will be assessed accordingly.

Final Exam: The students will undergo a scheduled final exam at the end of the semester covering the whole materials taught in the course.

Grading policy:

Mid-term Exam	30%
Quizzes and participation	30%
Final Exam	40%
Total:	100%

Attendance Regulation:

The semester has in total 30 credit hours. Total absence hours from classes and tutorials must not exceed 15% of the total credit hours. Exceeding this limit without a medical or emergency excuse approved by the deanship will prohibit the student from sitting the final exam and a zero mark will be recorded for the course. If the excuse is approved by the deanship the student will be considered withdrawn from the course.

Philadelphia University

Faculty of Engineering and Technology

Department of Civil Engineering

Second Semester 2022/2023

Course Details:

Title: Sanitary Engineering (067044300)

Prerequisite: Environmental Engineering (067034300)

Credit Hours: 3 credit hours

Textbook: "Water and Wastewater Technology", 6th Edition, Mark J. Hammer & Mark J. Hammer Jr., Prentice Hall, 2007

References: Water Supply and Pollution Control, 7th Edition, Warren Viessman & Mark J. Hammer, Pearson Prentice Hall.
Wastewater Engineering, Treatment and reuse, Metcalf and Eddy, McGraw-Hill Education, 2003

Course Description: Sources of water, Population estimation, water demand and type of waste water, hydraulic of sewage systems and design principles, water distribution systems, sewer water collection system design and principles, biological and chemical wastewater quality Unit operations and processes. Basics in water and wastewater engineering design; Wastewater generation and collection, Biological wastewater treatment and reuse including activated sludge

Instructor: **Eng.**Isra'a Alsmadi
Email: ialsmadi@philadelphia.edu.jo
Office: Sanitary lab No.617, ext: 2638
Office hours: All week days: 9:45-11:15

Course Outlines:

Week	Topic
1	Fundamental Concepts and Overview
2	Water demand and population forecast
3	Water distribution
4,5	wastewater generation and collection
6,7	Wastewater treatment (physical and chemical)
8	Biological wastewater treatment process and concepts

Course Learning Outcomes with reference to ABET Student Outcomes:

Upon successful completion of this course, student should:

1.	Determine up to dated knowledge of water quality parameters and its application in water and wastewater treatment.	[1;2]
2.	Understand the main concepts of water engineering design	[1;2]
3.	Determine the basic requirement for waste water management and collection system design.	[1;2]
4.	Understand the best available technologies for physical, chemical and biological treatment of wastewater	[1;2]
5.	Determine common water pollutants, and their pathways, and the various technologies available for waste water control	[1;7]

Assessment Guidance:

Evaluation of the student performance during the semester (total final mark) will be conducted according to the following activities:

Sub-Exams: The students will be subjected to Mid written exams, first exam and second exam during the semester. Each exam will cover materials given in lectures in the previous 3-4 weeks.

Quizzes: (3-5) quizzes of (10-15) minutes will be conducted during the semester. The materials of the quizzes are set by the lecturer.

Homework and projects: Tutorials sheets will be handed out to the students and homework should be solved individually and submitted before or on a set agreed date. Student may be assigned to present project(s).

Cheating by copying homework from others is strictly forbidden and punishable by awarding the work with zero mark.

Collective Participation: Brain storming and collective discussions will be carried out during any lecture. Individual student will be assessed accordingly.

Final Exam: The students will undergo a scheduled final exam at the end of the semester covering the whole materials taught in the course.

Grading policy:

Mid Exam	30%
Homework and projects	12%
Quizzes and participation	8%
Final Exam	50%
Total:	100%

Attendance Regulation:

The semester has in total 45 credit hours. Total absence hours from classes and tutorials must not exceed 15% of the total credit hours. Exceeding this limit without a medical or emergency excuse approved by the deanship will prohibit the student from sitting the final exam and a zero mark will be recorded for the course. If the excuse is approved by the deanship the student will be considered withdrawn from the course.

Philadelphia University

Faculty of Engineering
Department of Communication & Electronics Engineering
Second Semester 2022/2023

Course Information

Title:	Prestressed Concrete Design (0670517)
Prerequisite:	Reinforced Concrete Design II
Credit Hours:	3 credit hours (16 weeks per semester, approximately 44 contact hours)
Textbook:	1. PCI design handbook of "Precast and Prestressed Concrete" (7th Edition), 2010. 2. Nawy, Edward "Prestressed Concrete: A Fundamental Approach" (5th Edition), Prentice Hall, 2009.
References:	1. Naaman, A.E. "Prestressed Concrete Analysis and Design: Fundamentals" (2nd Edition), Techno Press 3000, 2004. 2. Nilson, A.H. "Design of Prestressed Concrete" (2nd Edition), Wiley, 1987.
Course Description:	This course covers the fundamental theories and principles of prestressed concrete members. This course includes design, investigation of beams, columns.
Website:	http://www.philadelphia.edu.jo/academics/salkhawaldeh/
Instructor:	Dr. Sawsan Alkhawaldeh **Email**: salkhawaldeh@philadelphia.edu.jo **Office**: Engineering building, room 213, ext.: 2506 **Office hours**: Sun, Tues, 10:00-11:00 Mon, Wed: 10:00-11:00 • Open sessions in MS Teams. • Moodle chat. • MS Teams chat.
Technology Requirements	• Personal computer, laptop, or mobile phone. • Internet Connection. • Access to Philadelphia University E-Learning Portal (MS Teams and Moodle)
Learning Style	Blended
Communication	• Announcement: the announcements will be posted in MS Teams or Moodle on a regular basis. • Email. • MS Teams or Moodle chats.
Class Recording	• All Synchronous lectures will be recorded and will be available on MS Teams.

Course Objectives:

This course aims to:

- Introduce the basic concepts of prestressing.
- Understand the prestressing methods.
- Be familiar with materials and systems for Prestressing.
- Be able to calculate the Loss of Prestress.
- Be familiar with Flexural Analysis and Design at ultimate.

Course Learning Outcomes (CLO) and Relation to ABET Student Outcomes

[1]	Be familiar with the prestressing methods	**[1, 6, 7]**
[2]	Understand the fundamental structural behavior of prestressed concrete members subjected to a variety of loading conditions.	**[1, 6, 7]**
[3]	Analyze prestressed concrete beams at release, service and ultimate.	**[1, 6, 7]**
[4]	Calculate prestressing loss.	**[1, 6, 7]**
[5]	Analyze and design prestressed concrete beams	**[1, 6, 7]**
[6]	Analyze and design composite beams	**[1, 6, 7]**

Grading Policy and Assessment Instruments

Evaluation of students' performance (final grade) will be based on the following categories

Graded Item	Marks	Topic (s)	Course LO (s)	Learning Portal: MS Teams/ Moodle/ F2F/Others	Week
Project	**30%**		**[1, 6, 7]**	**MS teams/ F2F**	**16**
Mid Exam	**30%**		**[1, 6, 7]**	**F2F**	**5**
Final Exam	**40%**		**[1, 6, 7]**	**F2F**	**16**
Total marks	**100%**				

- Two written exams will be given.
- Copying homework is forbidden, any student caught copying the homework or any part of the homework will receive zero marks for that homework.
- Quizzes: 10-minute quizzes will be given to the students during the semester. These quizzes will cover material discussed during the previous lecture(s).
- Homework: Problem sets will be given to students. Homework should be solved individually and submitted before the due date.
- The final exam will cover all the class material.

Course contents: Learning Resources/ References/ Activities/ Assessment Methods

Week	Lecture	Topic	CLO	Learning Resources/ References/ Activities/ Assessment Method	Learning Style	Learning Portal
					F2F/ Synchronous/ Asynchronous	On campus /MS Teams /Moodle /Others
1	1	Introduction	[1, 6, 7]		F2F	On campus
	2	Basic concepts of prestressing	[1, 6, 7]		F2F	On campus
	3	Basic concepts of prestressing	[1, 6, 7]		Asynchronous	MS Teams
2	4	Pretensioning process	[1, 6, 7]		F2F	On campus
	5	Pretensioning process	[1, 6, 7]		F2F	On campus
	6	Pretensioning process	[1, 6, 7]		Asynchronous	MS Teams
3	7	Post-tensioning process	[1, 6, 7]		F2F	On campus
	8	Post-tensioning process	[1, 6, 7]		F2F	On campus
	9	Post-tensioning process	[1, 6, 7]		Asynchronous	MS Teams
4	10	Calculating stresses in PC members	[1, 6, 7]		F2F	On campus
	11	Calculating stresses in PC members	[1, 6, 7]		F2F	On campus
	12	Calculating stresses in PC members	[1, 6, 7]		Asynchronous	MS Teams
5	13	Materials for prestressing-Steel	[1, 6, 7]		F2F	On campus
	14	Materials for prestressing-Steel	[1, 6, 7]		F2F	On campus

	15	Materials for prestressing-Steel	**[1, 6, 7]**		Asynchronous	MS Teams
6	**16**	Materials for prestressing- Concrete	**[1, 6, 7]**		F2F	On campus
	17	Materials for prestressing- Concrete	**[1, 6, 7]**		F2F	On campus
	18	Materials for prestressing- Concrete	**[1, 6, 7]**		Asynchronous	MS Teams
7	**19**	Prestressing systems	**[1, 6, 7]**		F2F	On campus
	20	Prestressing systems	**[1, 6, 7]**		F2F	On campus
	21	Prestressing systems	**[1, 6, 7]**		Asynchronous	MS Teams
8	**22**	Prestressing loss- Introduction	**[1, 6, 7]**		F2F	On campus
	23	Steel relaxation loss	**[1, 6, 7]**		F2F	On campus
	24	Steel relaxation loss	**[1, 6, 7]**		Asynchronous	MS Teams
9	**25**	Creep loss	**[1, 6, 7]**		F2F	On campus
	26	Shrinkage loss	**[1, 6, 7]**		F2F	On campus
	27	Shrinkage loss	**[1, 6, 7]**		Asynchronous	MS Teams
10	**28**	Loss due to friction	**[1, 6, 7]**		F2F	On campus
	29	Loss due to anchorage	**[1, 6, 7]**		F2F	On campus
	30	Numerical examples	**[1, 6, 7]**		Asynchronous	MS Teams
11	**31**	Step-by-step computations of prestressing loss	**[1, 6, 7]**		F2F	On campus
	32	Introduction to flexural design	**[1, 6, 7]**		F2F	On campus
	33	Introduction to flexural design	**[1, 6, 7]**		Asynchronous	MS Teams

12	34	General design procedures	[1, 6, 7]		F2F	On campus
	35	Beams with constant tendon eccentricity	[1, 6, 7]		F2F	On campus
	36	Beams with constant tendon eccentricity	[1, 6, 7]		Asynchronous	MS Teams
13	37	Beams with variable tendon eccentricity	[1, 6, 7]		F2F	On campus
	38	Beams with variable tendon eccentricity	[1, 6, 7]		F2F	On campus
	39	Numerical examples	[1, 6, 7]		Asynchronous	MS Teams
14	40	Envelopes for tendon placement	[1, 6, 7]		F2F	On campus
	41	Anchorage zone	[1, 6, 7]		F2F	On campus
	42	Anchorage reinforcement	[1, 6, 7]		Asynchronous	MS Teams
15	43	Flexural design of composite sections	[1, 6, 7]		F2F	On campus
	44	Shoring of slab	[1, 6, 7]		F2F	On campus
	45	Service load design	[1, 6, 7]		Asynchronous	MS Teams
16	46	Service load design	[1, 6, 7]		F2F	On campus
	47	Projects and presentations	[1, 6, 7]		F2F	On campus
	48	Review and final exam	[1, 6, 7]		Asynchronous	MS Teams

Credit hours contact

Credit Hours Distribution Report	
Learning Style	**Credit hours**
F2F	**2**
Synchronous	**0**
Asynchronous	**1**
Total	**3**

Academic Honesty/ student conduct

As a student at Philadelphia University, you are expected to follow the university regulations and guidelines for academic honesty/student conduct found in student handbook.

This means that you should not cheat, plagiarize, and let another student use your account in LMS learning portals.

Attendance policy:

Absence from classes and/or tutorials shall not exceed 15%. Students who exceed the 15% limit without a medical or emergency excuse, acceptable to and approved by the Dean of the relevant college/faculty, shall not be allowed to take the final examination and shall receive a mark of zero for the course. If the excuse is approved by the Dean, the student shall be considered to have withdrawn from the course.

March 2023

Philadelphia University

Faculty of Engineering & Technology - Department of Civil Engineering

Second Semester 2022/2023

Course Details:

Title:	Hydrology **(067054100)**
Prerequisite:	Hydraulic (**067044100**)
Credit Hours:	3 credit hours (15 weeks per semester, approximately 44 contact hours)
Textbook:	Viessman, W., and Lewis, G., Introduction to Hydrology, 5th edition, Prentice Hall. (ISBN 0- 67-399337-x).
References:	• Engineering Hydrology, Wilson, E. M. Macmillan, London. 1983 . Hydrology for Engineers. Linsley, R., Kohler, M., Paulhus, JMcGraw Hill. • Hydrology An Introduction, WILFRIED BRUTSAERT, Cambridge University press. 8th edition, 2013 • Water Authority (WAJ): Studies and reports related to Jordan's hydrology.
Course Description:	This course introduces students to the basic components of surface water hydrology including the components of the hydrological cycle as well as other hydrological topics like evapotranspiration, precipitation, interception, run off , stream flow and groundwater flow. it Prepares students to develop engineering solutions to hydrological problems by emphasizing the interlinkages of processes in hydrological cycle. Attention is paid to techniques for the measurement and collection of data on the different components. The course also covers engineering applications in hydrological analysis and design
Website:	https://www.philadelphia.edu.jo/academics/aodeibat/
Instructor:	Eng. Abdallah Odeibat **Email**: aodeibat@philadelphia.edu.jo **Office**: Civil Engineering Building, Office No 215 **Office hours:** Sun, Tues: 12:00-14:00 Mon & Wed :11:00-14:00

Course Outlines:

Weeks	TOPIC
1 ,2,3	Introduction to hydrology, hydrologic cycle, hydrologic budget.
4,5,6	Precipitation.
7,8,9	Evaporation, transpiration, and Infiltration
10,11,12,13	Stream flow, runoff, and hydrograph. Hydrograph analysis, unit hydrograph theory and its applications, synthetic unit hydrograph
14,15	Groundwater hydrology, reservoir, and wells

Learning Outcomes with reference to ABET Student Outcomes:

Upon successful completion of this course, student should:

1.	Be able to identify main components of hydrological processes. Including; precipitation, evaporation, transpiration, infiltration and runoff.	[1, 2]
2.	Be able to analyze rainfall-runoff relationship.	[1 , 2]
3.	Be able to employ the concepts of unit hydrographs.	[1 , 7]
4.	Be able to predict peak flood, using rational method, empirical relations, NRCS method, hydrologic routing.	[1 6]
5.	Be able to outline groundwater movement and general flow equations.	[1 , 2]
6.	Be able to recognize main features of wells' hydraulics.	[1, 7]

Assessment Guidance:

Evaluation of the student performance during the semester (total final mark) will be conducted according to the following activities:

Sub-Exams: The students will be subjected to two scheduled written exams, first exam and second exam during the semester. Each exam will cover materials given in lectures in the previous 3-4 weeks.

Quizzes: (3-5) quizzes of (10-15) minutes will be conducted during the semester. The materials of the quizzes are set by the lecturer.

Homework and projects: Tutorials sheets will be handed out to the students and homework should be solved individually and submitted before or on a set agreed date. Student may be assigned to present project(s).

Cheating by copying homework from others is strictly forbidden and punishable by awarding the work with zero mark.

Collective Participation: Brain storming and collective discussions will be carried out during any lecture. Individual student will be assessed accordingly.

Final Exam: The students will undergo a scheduled final exam at the end of the semester covering the whole materials taught in the course.

Grading policy:

Mid Exam	30%
Homework, projects and Quizzes	30%
Final Exam	40%
Total:	100%

Attendance Regulation:

The semester has in total 45 credit hours. Total absence hours from classes and tutorials must not exceed 15% of the total credit hours. Exceeding this limit without a medical or emergency excuse approved by the deanship will prohibit the student from sitting the final exam and a zero mark will be recorded for the course. If the excuse is approved by the deanship the student will be considered withdrawn from the course.

Philadelphia University

Faculty of Engineering
Department of Communication & Electronics Engineering
Second Semester 2022/2023

Course Information

Title:	Project Management (0670571)
Prerequisite:	Reinforced Concrete 2 (0670412)
Credit Hours:	3 credit hours (16 weeks per semester, approximately 44 contact hours)
Textbook:	Project management for engineering and construction
References:	Oberlender, G. D., &Oberlender, G. D. (2013, 3rd edition). *Project management for engineering and construction*., New York: McGraw -Hill Higher Education
Course Description:	Planning, project management concepts, network analysis using arrow techniques network analysis. Overlapping networks, project monitoring, project control, time- cost trade off.
Website:	http://www.philadelphia.edu.jo/academics/alaa
Instructor:	Dr. Ala'a Alshdiefat **Email**: aalshdiefat@philadelphia.edu.jo **Office**: Civil engineering building, room 210B, ext.: 2436 **Virtual Office hours**: Mon, Wed: 11:00-12:45 Sun, Tues, 11:15-12:10 • Open sessions in MS Teams. • Moodle chat. • MS Teams chat.
Technology Requirements	• Personal computer, laptop, or mobile phone. • Internet Connection. • Access to Philadelphia University E-Learning Portal (MS Teams and Moodle)
Learning Style	Online/Blended
Communication	• Announcement: the announcements will be posted in MS Teams or Moodle on a regular basis. • Email. • MS Teams or Moodle chats.
Class Recording	• All Synchronous lectures will be recorded and will be available on MS Teams.

Course Objectives:

This course aims to:

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Course Learning Outcomes (CLO) and Relation to ABET Student Outcomes

[1]	Perform network analysis and scheduling calculations	**ABET 1**
[3]	Evaluate the project status	**ABET 3**
[5]	Determine the role of project managers	**ABET 5**
[6]	1. Plan the work: perform WBS, estimate activity duration, and establish relationships among the project activities. 2. Perform earned value analysis to control schedule and cost variances	**ABET 6**

Grading Policy and Assessment Instruments

Evaluation of students' performance (final grade) will be based on the following categories

Graded Item	Marks	Topic (s)	Course LO (s)	Learning Portal: MS Teams/ Moodle/ F2F/Others	Week
Mid Exam	30%				
Final Exam	40%				
Total marks	**100%**				

- Two written exams will be given.
- Copying homework is forbidden, any student caught copying the homework or any part of the homework will receive zero marks for that homework.
- Course project: Problem sets will be given to students. Course project should be done individually and submitted before the due date.
- Presentation: A 10 to 15 minutes presentation on Power Point for what have been done.
- The final exam will cover all the class material.

Course contents: Learning Resources/ References/ Activities/ Assessment Methods

Week	Lecture	Topic	CLO	Learning Resources/ References/ Activities/ Assessment Method	Learning Style	Learning Portal
					F2F/ Synchronous/ Asynchronous	On campus /MS Teams /Moodle /Others
1	1	Introduction,	5		F2F	On campus
	2	Define Projects and Project Management	5		F2F	On campus
	3	Define Projects and Project Management	5		Asynchronous	MS Teams
2	4	Project teams	5		F2F	On campus
	5	Project teams	5		F2F	On campus
	6	Formulation project team.	5		Asynchronous	MS Teams
3	7	Organization structure	5		F2F	On campus
	8	Project structure	5		F2F	On campus
	9	Type of projects	5		Asynchronous	MS Teams
4	10	Project Planning	6		F2F	On campus
	11	WBS	6		F2F	On campus

	12	**OBS**	6		**Asynchronous**	**MS Teams**
	13	**Scheduling the project**	6		**F2F**	**On campus**
5	**14**	**Estimation project cost**	6		**F2F**	**On campus**
	15	**Estimation Project Cost**	6		**Asynchronous**	**MS Teams**
	16	**Project Budgeting**	6		**F2F**	**On campus**
6	**17**	**Project Budgeting**	6		**F2F**	**On campus**
	18	**Gantt chart**	4		**Asynchronous**	**MS Teams**
	19	**Gantt chart**	1		**F2F**	**On campus**
7	**20**	**Network programming using critical path mode (CPM)**	1		**F2F**	**On campus**
	21	**Network programming using critical path mode (CPM)**	1		**Asynchronous**	**MS Teams**
	22	**Network programming using critical path mode (CPM)**	1		**F2F**	**On campus**
8	**23**	**Network programming using critical path mode (CPM)**	6		**F2F**	**On campus**
	24	**Crushing CPM**	6		**Asynchronous**	**MS Teams**
	25	**Crushing CPM**	3		**F2F**	**On campus**
9	**26**	**S Curve**	3		**F2F**	**On campus**

	27	**S Curve**	3		**Asynchronous**	**MS Teams**
	28	**Techniques of Project Planning**	3		**F2F**	**On campus**
10	**29**	**Techniques of Project Planning**	1		**F2F**	**On campus**
	30	**Techniques of Project Planning**	1		**Asynchronous**	**MS Teams**
	31	**Techniques of Project Planning**	6		**F2F**	**On campus**
11	**32**	**Techniques of Project Planning control**	6		**F2F**	**On campus**
	33	**Techniques of Project Planning control**	6		**Asynchronous**	**MS Teams**
	34	**Techniques of Project Planning control**	3		**F2F**	**On campus**
12	**35**	**Techniques of Project Planning control**	3		**F2F**	**On campus**
	36	**Project Tracking**	3		**Asynchronous**	**MS Teams**
	37	**Project Tracking**	3		**F2F**	**On campus**
13	**38**	**Project Tracking**	3		**F2F**	**On campus**
	39	**Project Tracking**	1		**Asynchronous**	**MS Teams**

	40	**Project Tracking**	1		**F2F**	**On campus**
14	**41**	**Earn Value Methods**	1		**F2F**	**On campus**
	42	**Earn Value Methods**	6		**Asynchronous**	
	43	**Earn Value Methods**	6		**F2F**	**On campus**
15	**44**	**Earn Value Methods**	6		**F2F**	**On campus**
	45	**Earn Value Methods**	6		**Asynchronous**	
	46	**Project Presentation**	3		**F2F**	**On campus**
16	**47**	**Project Presentation**	3		**F2F**	**On campus**
	48	**Review& Final exam**	3		**Asynchronous**	

Credit hours contact

Credit Hours Distribution Report	
Learning Style	**Credit hours**
F2F	**2**
Synchronous	**0**
Asynchronous	**1**
Total	**3**

Academic Honesty/ student conduct

As a student at Philadelphia University, you are expected to follow the university regulations and guidelines for academic honesty/student conduct found in student handbook.

This means that you should not cheat, plagiarize and let another student use your account in LMS learning portals.

Attendance policy:

Absence from classes and/or tutorials shall not exceed 15%. Students who exceed the 15% limit without a medical or emergency excuse, acceptable to and approved by the Dean of the relevant college/faculty, shall not be allowed to take the final examination and shall receive a mark of zero for the course. If the excuse is approved by the Dean, the student shall be considered to have withdrawn from the course.

March 2023

Philadelphia University

Faculty of Engineering and Technology
Department of Civil Engineering
Second Semester 2022/2023

Course Details:

Title:	Specifications, Contracts, and QuantitySurveying(0670572)
Prerequisite:	Reinforced Concrete 2 (0670412)
Credit Hours:	3 credit hours (16 weeks per semester, approximately 44 contact hours)
Textbook:	Merritt, F. S., & Ricketts, J. T. (2001). *Building design and construction handbook* (Vol. 13). New York, NY, USA: McGraw-Hill. McMULLAN, J. (2019). *Construction Contract Administration Principles: Guide To Construction Contract Professionals*.
References:	The Jordanian Ministry of Public Works and Housing.(2013). *Jordanian Contract book*. http://www.jcca.org.jo/DataFiles/2017/Files/contractor2010-1013.doc The Jordanian Ministry of Public Works and Housing. *Civil Engineering Specifications for Jordanian Construction Projects Book.*
Course Description:	The course intends to introduce types of contractual procedures, types of contracts, procurement, contract conditions, technical specification for buildings, bills of quantities, pricing and quantity measurement.
Website:	http://www.philadelphia.edu.jo/academics/alaa
Instructor:	**Dr. Ala'a Alshdiefat** **Email:aalshdiefat@philadelphia.edu.jo** **Office: Civil engineering building, room, 210B ext. 2436** **Office Hours: Sun, Tue and Thu: 11:15-12:45** **Mon and Wed 11:15-12:00**

Course Outlines:

Week	Topic
1	Introduction, Define construction contracts and specifications, and Introduction to quantify in construction projects.
2	Construction project parties, procurement process, factor effecting on construction contracts
3, 4	Type of construction contracts, fixed price contracts, and cost reimbursable contracts
5, 6	Jordanian construction contracts, general conditions, and special conditions
7, 8	Jordanian specifications for building, reinforcement specifications, reinforcement concrete specifications.
9	Excavation, Fill, concrete works
10	Reinforcement works

11	Blockworks, Plaster works, and painting works
12	Tile works, MEP works
13	Preparing BOQ, Preparing contract documents
14	Disable Specifications in construction projects
15	Project presentation
16	Review& Final exam

Course Learning Outcomes with reference to ABET Student Outcomes:

Upon successful completion of this course, student should:

1.	Determine the obligations of project's parties	4
2.	Understand construction contracts' characteristics and features	6
3	Be familiars with Jordanian construction contracts for construction projects	6
4	Understand specifications in construction projects and be familiar with Jordanian specifications	1
5	Be able to quantify several quantities in construction projects and able to prepare BOQ	1,6,3

Assessment Guidance:

Evaluation of the student performance during the semester (total final mark) will be conducted according to the following activities:

Sub-Exams: The students will be subjected to one scheduled written exam,mid term exam during the semester. The exam will cover materials given in lectures in the previous 3-4 weeks.

Quizzes: (3) quizzes of (10-15) minutes will beconducted during the semester. The materials of the quizzes are set by the lecturer.

Homework and projects: Tutorials sheets will be handed out to the students should be solved as group and submitted before or on a set agreed date. Student may be assigned to present project(s).

Cheating by copying homework from others is strictly forbidden and punishable by awarding the work with zero mark.

Collective Participation: Brain storming and collective discussions will be carried out during any lecture. Individual studentwill be assessed accordingly.

Final Exam: The students will undergo a scheduled final exam at the end of the semester covering the whole materials taught in the course.

Grading policy:

Mid Term Exam	30%
Project and Presentation	25%
Quizzes and participation	5%
Final Exam	40%
Total:	100%

Attendance Regulation:

The semester has in total 45 credit hours. Total absence hours from classes and tutorials must not exceed 15% of the total credit hours. Exceeding this limit without a medical or emergency excuse approved by the deanship will prohibit the student from sitting the final exam and a zero mark will be recorded for the course. If the excuse is approved by the deanship the student will be considered withdrawn from the course.